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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/652,159	08/31/2000	Te-Kai Liu	YOR9-2000-0385US1	2619
30743	7590	10/10/2003	EXAMINER	
WHITHAM, CURTIS & CHRISTOFFERSON, P.C. 11491 SUNSET HILLS ROAD SUITE 340 RESTON, VA 20190			FRENEL, VANEL	
			ART UNIT	PAPER NUMBER
			3626	

DATE MAILED: 10/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/652,159

Applicant(s)

LIU ET AL

Examiner

Vanel Frenel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Notice to Applicant

1. This communication is in response to the amendment filed 07/22/03. Claims 1-19 are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murakami et al. (6,253,980) in view of Whipp et al (2002/0022979).

(A) As per claim 1, Murakami discloses a car rental system comprising:

a fleet of cars, each of which is operable only when a valid digital key

is presented to the car, and each of said fleet of cars has a means to invalidate a digital key (Col.6, lines 29-67 to Col.7, line 63) ; and

a management system for handling reservation and car return, said management system (Col.5, lines 57-67 to Col.6, line 28).

Murakami does not explicitly disclose including: a key generation system for generating digital keys for renters of the car rental system; a key return system for processing digital keys returned by renters.

However, these features are known in the art, as evidenced by Whipp. In particular, Whipp suggests a key generation system for generating digital keys for

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renters of the car rental system; a key return system for processing digital keys returned by renters (Page 3, Paragraphs 0025-0029; Page 5, Paragraphs 0050-0053).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have included the features of Whipp within the system of Murakani with the motivation of providing a method for releasing a vehicle to one of a plurality of different users, including: receiving data entered by a user through a communication device outside and separate from the vehicle (See Whipp, Page 4, Paragraph 0031).

(B) As per claim 2, Whipp discloses the system further comprising a parking lot guarded by a security gate, said fleet of cars being parked within confines of said parking lot when not rented by a renter of the car rental system, said security gate only opening when a valid digital pass is presented by a renter of the car rental system (Page 6, Paragraph 0062-0064).

The motivation for combining the respective teachings of Murakami and Whipp are as discussed above in the rejection of claim 1, and incorporated herein.

(C) As per claim 3, Whipp discloses the system wherein the management system is accessed by a prospective renter over a network and the prospective renter is given a digital key to operate a particular car and a digital pass to open the gate of the parking lot where said particular car is parked, after said prospective renter completes a reservation for said particular car, said digital key and digital pass being effective starting from the time specified by said reservation (Page 5, Paragraph 0050-0054).

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(D) As per claim 4, Murakami discloses the system wherein the prospective renter accesses the management system at a kiosk located in the parking lot where the particular car is parked (Col.17, lines 14-67).

(E) As per claim 5, Murakami discloses the system wherein the prospective renter accesses the management system over the Internet (Col.17, lines 14-67).

(F) As per claim 6, Whipp discloses the system wherein the key generation system stores a digital key on a storage device provided by a prospective renter (Page5, Paragraphs 0053-0056).

The motivation for combining the respective teachings of Murakami and Whipp are as discussed above in the rejection of claim 1, and incorporated herein.

(G) As per claim 7, Murakami discloses the system wherein the storage device is a smart card (Col.6, lines 63-67 to Col.7, line 7).

(H) As per claim 8, Murakami discloses the system wherein the digital key comprises car and user identification (ID) signed by the management system to authenticate the digital key (Col.11, lines 6-67 to Col.12, line 22).

(I) As per claim 9, Murakami discloses the system wherein a renter of a car invalidates a valid digital key upon returning a car to the car rental system and presents an

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invalidated digital key to the key return system to complete a car return (Col.11, lines 6-67 to Col.12, line 67).

(J) As per claim 10, Murakami discloses the system wherein the invalidation of a valid digital key includes storing car status information relevant to computing by the key return system a receipt for the renter (Col.8, lines 24-64).

(K) As per claim 11, Murakami discloses a computer implemented method for operating a car rental system comprising the steps of

accessing a reservation server by a prospective car renter to reserve a car (Col.6, lines 29-67 to Col.7, line 63);

authenticating the prospective car renter by the reservation server (Col.12, lines 23-67) and,

upon the reservation server successfully authenticating the user, prompting the prospective car renter for the date, time, and location for pickup and return, and the type of car (Col.8, lines 65-67 to Col.9, line 67; Col.10, lines 1-67).

Murakami does not explicitly disclose checking by the reservation server an availability of a requested car and, if a car is available, creating by the reservation server a digital key by car and user information with a digital signature of the reservation server; and downloading the digital key to a portable storage device, the portable storage device being used to gain access to a rental car.

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However, these features are known in the art, as evidenced by Whipp. In particular, Whipp suggests checking by the reservation server an availability of a requested car and, if a car is available, creating by the reservation server a digital key by car and user information with a digital signature of the reservation server; and downloading the digital key to a portable storage device, the portable storage device being used to gain access to a rental car (See Whipp, Page 5, Paragraphs 0050-0056).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have included the features of Whipp within the system of Murakami with the motivation of providing a method for releasing a vehicle to one of a plurality of different users, including: receiving data entered by a user through a communication device outside and separate from the vehicle (See Whipp, Page 4, Paragraph 0031).

(L) As per claim 12, Murakami discloses the method wherein the step of accessing the reservation server is performed via a network (Col.17, lines 14-67).

(M) As per claim 13, Whipp discloses the method wherein the network is the Internet (Page 5, Paragraph 0052).

The motivation for combining the respective teachings of Murakami and Whipp are as discussed above in the rejection of claims 1 and 11, and incorporated herein.

(N) As per claim 14, Whipp discloses the method wherein the step of authenticating a prospective car renter includes the steps of

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prompting the prospective car renter to enter a personal identification number (PIN) (Page 7, Paragraphs 0066-0069); and
comparing the entered PIN with a valid PIN for the prospective car renter (Page 7, Paragraphs 0066-0069).

The motivation for combining the respective teachings of Murakami and Whipp are as discussed above in the rejection of claims 1 and 11, and incorporated herein.

(O) As per claim 15, Whipp discloses the method wherein the step of creating a digital key comprises the steps of
computing a hash of the car renter's valid PIN (Page 6, Paragraphs 0059-0063);
combining car and renter identification with the hashed PIN (Page 6, Paragraphs 0059-0063); and

digitally signing the combined information by said reservation server (Page 5, Paragraphs 0052--0055).

The motivation for combining the respective teachings of Murakami and Whipp are as discussed above in the rejection of claims 1 and 11, and incorporated herein.

(P) As per claim 16, Whipp discloses the method further comprising the steps of
inserting the portable storage device by a car renter into a slot for
receiving the portable storage device in a rented car (Page 5, Paragraphs 0051-0056);
upon detecting the portable storage device inserted into the slot,
obtaining by an access controller installed in the rented car the digital key
stored on the portable storage device and checking by the access controller

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whether the digital key is valid and verifying the signature on the digital key (Page 5, Paragraphs 0051-0056; Page 6, Paragraphs 0059-0063);

if the digital key is valid and the signature is verified, the access controller then prompting the car renter to enter his or her identification and checking for correctness of the car renter's identification (Page 6, Paragraphs 0059-0063; Page 8, Paragraphs 0070-0078); and

if the entered identification for the car renter matches a correct identification on the portable storage device, the access controller activating instruments of the car which the car renter is authorized to have access to (Page 6, Paragraphs 0059-0063; Page 8, Paragraphs 0070-0078).

The motivation for combining the respective teachings of Murakami and Whipp are as discussed above in the rejection of claims 1 and 11, and incorporated herein.

(Q) As per claim 17, Whipp discloses the method further comprising the steps of upon receiving a car renter's request to return a car, prompting the car renter to insert his or her portable storage device into the slot for the portable storage device (Page 5, Paragraphs 0051-0056);

obtaining by the access controller car status information and car identification (Page 6, Paragraphs 0059-0063; Page 8, Paragraphs 0070-0078);

creating by the access controller a return packet by combining car

status information and the current digital key (Page 6, Paragraphs 0059-0063; Page 8, Paragraphs 0070-0078);

signing the return packet by the access controller, appending the car

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identification to the signed return packet, and saving the signed return packet into the portable storage device (Page 2, Paragraph 0020; Page 6, Paragraphs 0059-0063; Page 8, Paragraphs 0070-0078); and

invalidating by the access controller a current digital key (Page 6, Paragraphs 0059-0063; Page 8, Paragraphs 0070-0078).

The motivation for combining the respective teachings of Murakami and Whipp are as discussed above in the rejection of claims 1 and 11, and incorporated herein.

(R) As per claim 18, Whipp discloses the method further comprising the steps of upon receiving a car renter's request to return a car, retrieving the return packet from the portable storage device (Page 5, Paragraph 0052-0056) ; verifying a signature on the return packet (Page 6, Paragraph 0060-0063); and updating the car status and printing a receipt for the car renter (Page 6, Paragraph 0060-0063).

The motivation for combining the respective teachings of Murakami and Whipp are as discussed above in the rejection of claims 1 and 11, and incorporated herein.

(S) As per claim 19, Murakami discloses the method wherein the portable storage device is a smart card (Col.7, lines 1-7).

Response to Arguments

4. Applicant's arguments filed on 7/22/03 regarding claims 1-19 have been fully considered but they are not persuasive. Applicant's arguments will be addressed hereinbelow in the order in which they appear in the response filed 7/22/03.

(A) At pages 3-6 of the 7/22/03 response, Applicant argues the followings:

(1) Murakami does not teach an access controller in the cars can validate a digital key,

(2) neither Murakami nor Whipp teach or suggest the use of a digital key.

(3) Murakami does not teach or suggest a digital key comprising car ID and user ID signed by a management system and invalidation of a digital key.

(4) Whipp does not teach or suggest create a digital key or to use a digital key with a digital signature. Therefore, Whipp fails to meet the limitations of claim 11 and so Murakami cannot make up the deficiencies. No conceivable combination of Murakami and Whipp can produce the present invention set forth in claim 11.

(5) Regarding claim 15, Whipp does not teach or suggest computing the hash of a car renters PIN, combining the hashed PIN with car and renter ID, and digitally signing the result.

(B) With respect to Applicant's first argument, Examiner respectfully suggests that Whipp discloses "Once the information is entered, the vehicle mode moves from enabled mode 84 to disabled mode 82. In disabled mode 82 the vehicle is locked and the ignition is disabled. The vehicle mode may be returned to enabled mode 84 by entry

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of the password, or the original credit card, driver's license information or both" which correspond to Applicant's claimed feature (See Whipp, Col.6, Paragraphs 0062-0066).

Therefore, Applicant's argument is not persuasive.

(C) With respect to Applicant's second, third and fourth arguments, Examiner respectfully submits the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981).

The issue of obviousness is not determined by what the references expressly state but by what they would reasonably suggest to one of ordinary skill in the art, as supported by decisions in *In re DeLisle* 406 Fed.1326, 160 USPQ 806, *In re Kell, Terry and Davies* 208 USPQ 871; and *In re Fine*, 837 F. 2d 1071, 1074, 5 USPQ 2d 1596, 1598 (Fed. Cir.1988) citing *In re Lalu*, 747 F.2d 703, 705, 223 USPQ 1257, 1258 Fed. Cir. 1988)). Further, it was determined in *In re Lamberti et al*, 192 USPQ 278 (CCPA) that :

- (i) obviousness does not require absolute predictability;
- (ii) non-preferred embodiments of prior art must also be considered; and
- (iii) the question is not express teaching of references, but what they would suggest.

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(D) With respect to Applicant's fifth argument, Examiner respectfully submits that Murakami suggests "Once a vehicle is selected, identified and accepted by the user, such as described above with respect to steps 28, 30 and 36, then the user's identification information is sent to the vehicle subsystem 18 in the selected vehicle from the central facility 12, as shown in step 56. In preferred embodiments, the information is encrypted for security and addressed to the vehicle subsystem of the selected vehicle. Upon receipt of the user identification information, the vehicle subsystem starts a counter for timing a preset time period, such as five minutes, as shown in step 58, and stores the identification information in memory, as shown in step 60" which correspond to Applicant's claimed feature (See Murakami, Col.11, lines 24-67 to Col.12, line 67; Col.17, lines 14-67 to Col.18, line 67). Therefore, Applicant's argument is not persuasive.

(E) Applicant's arguments at page 6 repeat the issues discussed above, and are not persuasive for the same reasons given above.

(F) In response, all of the limitations which Applicant disputes as missing in the applied references for the 07/22/03 amendment, have been fully addressed by the Examiner as either being fully disclosed or obvious in view of the collective teachings of Murakami and/or Whipp, based on the logic and sound scientific reasoning of one ordinarily skilled in the art at the time of the invention, as detailed in the remarks and explanations given in the preceding sections of the present Office Action. One cannot

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show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The cited but not applied art teaches method of operating a vehicle redistribution system based upon predicted ride demands (6,4653,298), method and apparatus for processing orders from customers in a mobile environment (6,026,375), shared vehicle rental system (5,812,070), car rent system (5,289,369) and car-operated control system for vehicle components (4,477,874).

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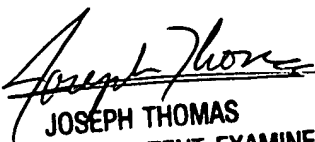
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vanel Frenel whose telephone number is 703-305-4952. The examiner can normally be reached on 6:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Thomas can be reached on 703-305-9643. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

V.F.

October 5, 2003


JOSEPH THOMAS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600